AMENDMENT UNDER 37 C.F.R. § 1.111 Attorney Docket No.: Q94064

Application No.: 10/576,450

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

 (currently amended): A tetrafluoroethylene polymer aqueous dispersion obtained by carrying out a tetrafluoroethylene polymerization in an aqueous medium in the presence of a fluorovinyl group-containing emulsifier,

wherein said tetrafluoroethylene polymer aqueous dispersion contains a particle comprising a tetrafluoroethylene polymer dispersed in said aqueous medium,

said fluorovinyl group-containing emulsifier comprises a fluorovinyl group-containing compound (I) represented by the general formula (I):

$$CF_2=CF-(CF_2)_a-Y$$
 (I)

wherein a represents an integer of 1 to 10 and Y represents $-SO_3M$ or -COOM in which M represents H, NH₄ or an alkali metal,

a fluorovinyl group-containing compound (II) represented by the general formula (II):

$$CF_2=CF-(CF_2C(CF_3)F)_b-Y$$
 (II)

wherein b represents an integer of 1 to 5 and Y represents $-SO_3M$ or -COOM in which M represents H, NH_4 or an alkali metal,

a fluorovinyl group-containing compound (III) represented by the general formula (III):

$$CF_2$$
= CFO - $(CFX)_c$ - Y (III)

wherein X represents F or -CF₃, c represents an integer of 1 to 10 and Y represents -SO₃M or -COOM in which M represents H, NH₄ or an alkali metal,

a fluorovinyl group-containing compound (IV) represented by the general formula (IV):

AMENDMENT UNDER 37 C.F.R. § 1.111 Attorney Docket No.: Q94064

Application No.: 10/576,450

$$CF_2=CFO-(CF_2CFXO)_d-(CF_2)_e-Y$$
 (IV)

wherein X represents F or -CF₃, d represents an integer of 1 to 10, e represents an integer of 1 to

3 and Y represents -SO₃M or -COOM in which M represents H, NH₄ or an alkali metal,

a fluorovinyl group-containing compound (V) represented by the general formula (V):

$$CH_2=CFCF_2O-(CF(CF_3)CF_2O)_{f^*}CF(CF_3)-Y$$
 (V)

wherein f represents an integer of 0 to 10 and Y represents –SO₃M or –COOM in which M represents H, NH₄ or an alkali metal, and/or

a fluorovinyl group-containing compound (VI) represented by the general formula (VI):

wherein g represents an integer of 1 to 10 and Y represents -SO₃M or -COOM in which M represents H, NH₄ or an alkali metal,

said tetrafluoroethylene polymer aqueous dispersion has a fluorine-containing surfactant content of not higher than 1000 ppm by mass,

wherein the tetrafluoroethylene polymer has a tetrafluoroethylene unit content exceeding 40 mole percent.

- 2. (canceled).
- (previously presented): The tetrafluoroethylene polymer aqueous dispersion according to Claim 1, wherein the tetrafluoroethylene polymer is a perfluoro-based polymer.
- (previously presented): The tetrafluoroethylene polymer aqueous dispersion according to Claim 1, wherein the tetrafluoroethylene polymerization is carried out in the absence of any non-byproduct fluorine-containing surfactant.
- (previously presented): The tetrafluoroethylene polymer aqueous dispersion according to Claim 1, wherein the fluorovinyl group-containing emulsifier comprises the

AMENDMENT UNDER 37 C.F.R. § 1.111 Attorney Docket No.: Q94064

Application No.: 10/576,450

fluorovinyl group-containing compound (I), the fluorovinyl group-containing compound (III), the fluorovinyl group-containing compound (IV) and/or the fluorovinyl group-containing compound (V).

(original): The tetrafluoroethylene polymer aqueous dispersion according to
 Claim 5, wherein the fluorovinyl group-containing emulsifier comprises a fluorovinyl group-containing compound (i) represented by the general formula (i):

$$CF_2=CF_-(O)_h-(CF_2CF(CF_3)O)_i-(CF_2)_i-Y$$
 (i)

represents H, NH4 or an alkali metal.

wherein h represents an integer of 0 or 1, i represents an integer of 0 to 2, j represents an integer of 1 to 3 and Y represents –SO₃M or –COOM in which M represents H, NH₄ or an alkali metal, and/or a fluorovinyl group-containing compound (ii) represented by the general formula (ii):

CH₂=CFCF₂O-(CF(CF₃)CF₂O)_k-CF(CF₃)-Y (ii)

wherein k represents an integer of 0 to 3 and Y represents –SO₃M or –COOM in which M

- 7. (previously presented): The tetrafluoroethylene polymer aqueous dispersion according to Claim 1, which has a solid matter concentration of 5 to 70% by mass.
- (previously presented): The tetrafluoroethylene polymer aqueous dispersion according to Claim 1, wherein the particle comprising the tetrafluoroethylene polymer has an average primary particle diameter of 50 to 500 nm.
- (withdrawn): A tetrafluoroethylene polymer powder which is obtained by coagulating the tetrafluoroethylene polymer aqueous dispersion according to Claim 1.
- (withdrawn): A tetrafluoroethylene polymer molding which is obtained by molding/processing using the tetrafluoroethylene polymer aqueous dispersion according to Claim 1.

AMENDMENT UNDER 37 C.F.R. § 1.111 Attorney Docket No.: O94064

Application No.: 10/576,450

 (withdrawn-currently amended): A method of producing a tetrafluoroethylene polymer aqueous dispersion by carrying out a tetrafluoroethylene polymerization in an aqueous medium in the presence of a fluorovinyl group-containing emulsifier,

wherein said tetrafluoroethylene polymer aqueous dispersion contains a particle comprising a tetrafluoroethylene polymer dispersed in said aqueous medium and has a fluorine-containing surfactant content of not higher than 1000 ppm by mass,

said fluorovinyl group-containing emulsifier is added in an amount of 0.00001 to 2% by mass relative to said aqueous medium, and

said fluorovinyl group-containing emulsifier comprises a fluorovinyl group-containing compound (I) represented by the general formula (I):

$$CF_2=CF-(CF_2)_a-Y$$
 (I)

wherein a represents an integer of 1 to 10 and Y represents –SO₃M or –COOM in which M represents H, NH₄ or an alkali metal,

a fluorovinyl group-containing compound (II) represented by the general formula (II):

$$CF_2=CF-(CF_2C(CF_3)F)_b-Y$$
 (II)

wherein b represents an integer of 1 to 5 and Y represents $-SO_3M$ or -COOM in which M represents H, NH₄ or an alkali metal,

a fluorovinyl group-containing compound (III) represented by the general formula (III):

wherein X represents F or -CF₃, c represents an integer of 1 to 10 and Y represents -SO₃M or -COOM in which M represents H, NH₄ or an alkali metal,

a fluorovinyl group-containing compound (IV) represented by the general formula (IV):

$$CF_2$$
= CFO - $(CF_2CFXO)_d$ - $(CF_2)_e$ - Y (IV)

AMENDMENT UNDER 37 C.F.R. § 1.111 Attorney Docket No.: O94064

Application No.: 10/576,450

wherein X represents F or -CF3, d represents an integer of 1 to 10, e represents an integer of 1 to 3 and Y represents -SO₃M or -COOM in which M represents H, NH₄ or an alkali metal. a fluorovinyl group-containing compound (V) represented by the general formula (V): CH2=CFCF2O-(CF(CF3)CF2O)r-CF(CF3)-Y (V)

wherein f represents an integer of 0 to 10 and Y represents -SO₃M or -COOM in which M represents H, NH4 or an alkali metal, and/or

a fluorovinyl group-containing compound (VI) represented by the general formula (VI):

 $CF_2=CFCF_2O-(CF(CF_3)CF_2O)_o-CF(CF_3)-Y$ (VI)

wherein g represents an integer of 1 to 10 and Y represents -SO₃M or -COOM in which M represents H, NH4 or an alkali metal,

wherein the tetrafluoroethylene polymer has a tetrafluoroethylene unit content exceeding 40 mole percent.

12. (withdrawn): The method of producing a tetrafluoroethylene polymer aqueous dispersion according to Claim 11, wherein the addition of the fluorovinyl group-containing emulsifier is carried out in the manner of a supplementary addition with the progress of a tetrafluoroethylene polymerization reaction.